



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/755,042	01/09/2004	Mou-Shiung Lin	085027-0104	8665

89518 7590 02/24/2010
McDermott Will & Emery LLP
11682 El Camino Real
Suite 400
San Diego, CA 92130

EXAMINER

JACKSON JR, JEROME

ART UNIT	PAPER NUMBER
----------	--------------

2815

NOTIFICATION DATE	DELIVERY MODE
-------------------	---------------

02/24/2010

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

SIP_Docket@mwe.com

Office Action Summary	Application No. 10/755,042	Applicant(s) LIN ET AL.	
	Examiner Jerome Jackson Jr.	Art Unit 2815	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 November 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 163-208 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 163-208 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 November 2009 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 2815

The drawings were received on 11/16/09. These drawings are acceptable.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 163-208 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eichelberger with Wagner and Wachtler, of record.

The previous rejection still applies. The new limitations do not add patentable subject matter because the prior art applied discloses coplanar insulation layers, and the metallization layer "passive" elements overlie first and second portions of the insulation layers. Eichelberger discloses coplanar chip 102 and insulation layer 104. There are also metal traces over either first and second portions of the insulation layer and metal bumps are disposed at various places on the top side of the device, wherein placement of the bumps over first or second portions of the lower insulation layer 104 is obvious design as there is no limit or unobviousness in placing the solder balls at any place on the top side of the structure.

Claims 163-208 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eichelberger with Wagner, Wachtler and Cole 5,745,984, of record.

As previously, Cole suggests BCB material for adhesion performance in a multilevel metallization scheme as Eichelberger/Wagner/Wachtler.

Claims 163-208 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eichelberger with Wagner, Wachtler, and further in view of Shanefield and Keil, of record.

As previously, Shanefield and Keil discloses and suggests circuit elements or "passive" devices disposed over chips in a multilevel metallization design as Eichelberger with Wagner and Wachtler.

Claims 163-208 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eichelberger with Wagner and Wachtler, Shanefield and Keil and further in view of Cole 5,745,984, of record.

As previously, Cole suggests BCB material for superior adhesion.

Applicant's arguments filed 11/16/09 have been fully considered but they are not persuasive. Applicant argues Eichelberger teaches away from connecting two pads on the same die by a metallization layer. This argument is not convincing of patentability because the general concept of connecting pads on dies with metallizations is disclosed in Eichelberger. Any particular connections of the various pads are considered obvious given the general teachings of the applied art. There are no unobvious or unexpected results from connecting pads from the same die by a metallization. Applicant has neither disclosed nor proven any unexpected results. There is no indication in the original disclosure such arbitrary pad connection is an unexpected inventive aspect of the disclosure. Further, in an intermediate structure 3E Eichelberger discloses pads from the same die connected by a seed metallization.

Applicant also argues Eichelberger/Wagner/Wachtler do not disclose "passive" devices or that the metallizations can be used to create a resistor, capacitor or inductor. Again there are no particularly claimed "passive" devices to structurally distinguish over the inherent capacitance/resistance/inductance properties of the overlying

Art Unit: 2815

metallizations. There is no need to additionally “create” a resistor, capacitor, etc. The metallizations define resistors, capacitors, and inductors. Nonetheless, as a further rejection, Shanefield and Keil disclose discrete passive elements as completely obvious structure in a practical application of Eichelberger.

Arguments regarding Wachtler disclosing pads on a same die connected by metallization but nonetheless not combinable with Eichelberger, such argument is not convincing of patentability because, as stated above, connecting pads of a same die together is neither unobvious nor having any unexpected results in any of the applied art. It is not disclosed as an inventive concept and is shown to be obvious and anticipated by Wachtler and cannot be considered patentable for any of the applied art in any manner. There are no unexpected results. Further Eichelberger does not teach away from connecting pads on a same substrate together. There is no teaching away as alleged.

In response to applicant's argument that Shanefield and Keil are not suggestive or combinable with Eichelberger/ Wachtler/Wagner, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). Passive devices are common in the applied art and attacking Shanefield or Keil alone is not persuasive. The references must be taken together.

Art Unit: 2815

Applicant appears to be arguing the exact placement of “passive” elements over particular insulation “portions” to be unexpected or unobvious. This argument is not persuasive of patentability as the applied art discloses passive elements over dies and on insulation layers, and as stated above, there are no unexpected results, and no unanticipated or unobvious structure, for the claimed placement of applicant's passive elements. The original disclosure does not disclose any unexpected results or any inventive concept in the exact placement of the passive elements. The placement of passive elements in the applied art show the claimed placement to be obvious.

Likewise, regarding “electroplated copper” there is no disclosure of unexpected results with electroplated copper, and the applied art discloses copper metalizations to be obvious.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Art Unit: 2815

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jerome Jackson Jr. whose telephone number is 571-272-1730. The examiner can normally be reached on M-Th.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ken Parker can be reached on 571-272-2298. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jerome Jackson Jr./
Primary Examiner, Art Unit 2815